

## A Note on *Cordia premnifolia* Ridl. (Boraginaceae)

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### Abstract

*Cordia premnifolia* Ridl. is confirmed as a synonym of *C. dichotoma* G. Forst., not of *C. cochinchinensis* Gagnep., which does not occur in Malesia. *C. premnifolia* is lectotypified.

### Introduction

This paper arises out of the exercise to verify the status of type specimens in the Singapore Herbarium (SING), in this case, to verify the type of *Cordia premnifolia* Ridl. The family Boraginaceae was revised by Riedl (1997) for Flora Malesiana, in which he regarded *C. premnifolia* as a synonym of *C. cochinchinensis* Gagnep. and stated no types were known for *C. premnifolia*. By including *C. premnifolia* in the latter, he considered that *C. cochinchinensis* occurs in Malesia. This paper discusses whether *C. premnifolia* should be included in the more widely distributed *C. dichotoma* G. Forst. as suggested by Ng (1989) or in *C. cochinchinensis* as suggested by Riedl (1997).

### *Cordia premnifolia*

The three specimens that Ridley (1915) cited when he described *Cordia premnifolia* are all in the Singapore Herbarium. These specimens were collected in the Pahang river region, Peninsular Malaysia.

Ridley (1915) described the leaves of *C. premnifolia* as ovate, obtuse or subacute, 6.5 x 4 in (16.5 x 10 cm), with the base as rounded or cordate and margins slightly undulate to distantly serrulate. These characters distinguished it from *C. griffithii* C.B. Clarke (now a synonym of *C. dichotoma*), which Ridley (1923) described as having ovate-lanceolate acute to acuminate leaves with a slightly cuneate base, 1.5–3.5 x 1–1.75 in (3.8–9 x 2.5–4.4 cm).

A comparison of specimens of *Cordia premnifolia* and *C. dichotoma* from

Peninsular Malaysia and Singapore shows the three syntypes of the former to have large, broad leaves up to 17 x 11 cm with a rounded to cordate base and entire to slightly serrulate margins; while the majority of the latter has smaller, narrower leaves, 6.5–11 x 3.5–9 cm, with a cuneate base and wavy margin. However, some specimens of *C. dichotoma* have broader leaves with a rounded base and an entire margin. In addition, even on a single specimen of *C. premnifolia* there is a great range in leaf size, for example, from 7.5–9.5 x 7 cm to 12.5–15 x 10–11 cm, thereby overlapping with those of *C. dichotoma*. There are no differences in fruit shape and size and both have the characteristic conical calyx cup. Taking the Peninsular Malaysian and Singapore population of *C. dichotoma* as a whole, the *C. premnifolia* specimens, although representing individuals with the largest leaves, fall within the range of variation for that species. Ng (1989) was therefore correct in including *C. premnifolia* as a synonym of *C. dichotoma*. He did not, however, lectotypify *C. premnifolia*.

Riedl (1997) made *Cordia premnifolia* a synonym of *C. cochinchinensis* without giving a reason for his decision as well as without seeing any of the three syntypes at SING and, because of this, he considered that *C. cochinchinensis* occurred in Malesia.

### *Cordia cochinchinensis*

In 1951, Johnston's account of *Cordia dichotoma* highlighted its wide distribution ranging from southern China and northern India, south through Indochina and Malesia (including Peninsular Malaysia) to northeastern Australia. Gagnepain & Courchet (1914) first described *C. cochinchinensis* from specimens collected in Cambodia, Vietnam and Thailand (the Taleng Mountains in the Petchabouri region). Riedl (1997) recorded *C. cochinchinensis* as occurring in Malesia presumably because he considered *C. premnifolia* as a synonym of *C. cochinchinensis*. There is no other documentation of this species being found elsewhere in Malesia. For example, it is not included in the Flora of Java (Backer & Bakhuizen, 1965), the Tree Flora of Malaya (Ng, 1989), the Tree Flora of Sabah and Sarawak (Dayang Awa, 1996) or Merrill's 1923 Enumeration of Philippine Flowering Plants.

There are no specimens of *Cordia cochinchinensis* at SING but from the descriptions by Gagnepain & Courcet (1914) and Johnson (1951), *C. cochinchinensis* and *C. dichotoma* are very similar species with overlapping geographical ranges. The main difference appears to be in the fruit: ovoid and up to 30 mm long and 22 mm wide with a campanulate fruit calyx in *C. cochinchinensis* compared with ovoid and about 22 mm long and 13 mm wide with a broadly cup-shaped to an inverted cone-shaped fruit calyx about 6 mm long and 12 mm wide with obscurely lobed edges in *C. dichotoma* (including *C. premnifolia*). Unfortunately, there is as yet no

revision of the Boraginaceae for the Flora of Thailand, where both species occur. It is beyond the scope of this paper to conclude whether *C. cochinchinensis* and *C. dichotoma* are conspecific. However, *C. cochinchinensis* does not occur in Peninsular Malaysia and therefore not in Malesia either.

***Cordia dichotoma* G. Forst.**

*Cordia dichotoma* G. Forst., Fl. Ins. Austr. (1786) 18, nr. 110; Johnston, J. Arnold Arbor. 32 (1951) 8; Backer & Bakh. f., Fl. Java 2 (1965) 459; Ng, Tree Fl. Malaya 4 (1989) 60, Dayang Awa, Tree Fl. Sabah & Sarawak 2 (1996) 98, fig. 2; Riedl, Fl. Malesiana I.13 (1997) 74.

**Type:** New Caledonia, *Forster s.n.*, (not seen)

**Synonym:** *Cordia premnifolia* Ridl., J. Str. Br. Roy. As. Soc. 68 (1915) 12; Fl. Mal. Pen. 2 (1923) 438.

**Type:** Peninsular Malaysia – Tanjong Antan, Pahang, *Ridley 2158* (lecto SING, here designated).

**Other syntypes examined:** Peninsular Malaysia – PAHANG: Pahang River *Burn Murdoch 186* (SING), Kuala Lipis *Machado 11567* (SING).

**Notes:** *Ridley 2158* is chosen as the lectotype among the specimens it is the most complete having mature fruits.

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